Name:

at1113exam: Expand, factor, and solve quadratics (v211)

1. Expand the following expression into standard form.

$$(5x - 8)(7x + 4)$$

$35x^2 + 20x - 56x - 32$

$35x^2 - 36x - 32$

2. Solve the equation.

$$(6x - 7)(9x - 8) \;=\; 0$$

$x = \frac{7}{6}$ $\qquad$ $x = \frac{8}{9}$

3. Expand the following expression into standard form.

$$(5x + 6)^2$$

$25x^2 + 30x + 30x + 36$

$25x^2 + 60x + 36$

4. Expand the following expression into standard form.

$$(4x - 5)(4x + 5)$$

$16x^2 + 20x - 20x - 25$

$16x^2 - 25$

5. Solve the equation with factoring by grouping.

$$15x^2 + 10x + 12x + 8 \;=\; 0$$

$$(5x + 4)(3x + 2) = 0$$

$$x = \frac{-4}{5} \qquad x = \frac{-2}{3}$$

6. Factor the expression.

$$9x^2 - 64$$

$$(3x + 8)(3x - 8)$$

7. Solve the equation.

$$10x^2 + 3x - 21 \;=\; 5x^2 + 2x - 3$$

$$5x^2 + x - 18 = 0$$

$$(5x - 9)(x + 2) = 0$$

$$x = \frac{9}{5} \qquad x = -2$$

8. Factor the expression.

$$x^2 - 2x - 8$$

$$(x + 2)(x - 4)$$